Listing of Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

We claim

Claim 1. (Currently Amended) An immunogenic construct which generates neutralizing antibodies against HIV-1 and which comprises

(A) an amino acid sequence of ~~comprising amino acid sequences selected from a~~ the viral transmembrane envelope protein gp41 of HIV-1 comprising ~~of one virus which is associated with the viral membrane via at least one transmembrane region and comprises at least one fusion domain and at least two α-helical structures, wherein the amino acid sequences are selected from~~

(i) a first region of the envelope protein, located between the transmembrane region and a first α-helical structure, and

(ii) a second region located between the fusion domain and a second α-helical structure,

wherein the amino acid sequences of the first and the second region are linked or associated via a linker ~~chemical crosslinker, a heterobifunctional crosslinker~~ or a portion of ~~a~~ the transmembrane ~~transmembrane~~ envelope protein p15E of another virus, wherein the (i) first region is linked with the C-terminal helix of said p15E and the (ii) second region is linked with the N-terminal helix of said p15E;

or

(B) a polynucleotide which encodes the amino acid sequences of (A) ~~that the construct comprises the DNA encoding the respective amino acid sequences~~.

Claim 2. (Cancelled)

Claim 3. (Cancelled)

Claim 4. (Currently Amended) The immunogenic construct according to claim 1 wherein the envelope protein p15E of another virus is ~~a protein of a virus selected from the group of HIV-1, HIV-2, FeLV, BIV, CEAV, EIAV1, FIV, OMVV, SIVmac, SIVcpz, VILV, RSV, ALV, JSRV, SRV, GALV, MuLV, BLV, HTLV-1, HTLV-2,~~ the p15E protein of KoRV~~, SARS virus, SMRV, Marburg virus, Ebola, influenza virus, measles virus, mumps virus, Visna virus,~~ or PERV ~~and HPV-1~~.

Claim 5. (Cancelled)

Claim 6. (Cancelled)

Claim 7. (Cancelled)

Claim 8. (Cancelled)

Claim 9. (Currently Amended) A pharmaceutical agent comprising at least one of the immunogenic constructs according to claim 1 and a pharmaceutically acceptable carrier.

Claim 10. (Cancelled)

Claim 11. (Cancelled)

Claim 12. (Cancelled)

Claim 13. (Currently Amended) The pharmaceutical agent according to claim 9, wherein said immunogenic construct comprises at least one amino acid sequence which is linked to a carrier system.

Claim 14. (Currently Amended) The pharmaceutical agent according to claim 38, wherein the ~~adjuvants~~ adjuvant or the carrier ~~system are constituted of~~ comprises one or more protein fragments linked via a peptide bond to the outer N- or C-terminal end of said amino acid sequence.

Claim 15. (Currently Amended) The pharmaceutical agent according to claim 38, wherein the ~~adjuvants~~ adjuvant or the carrier ~~system are selected from the group comprising albumins, KLH and dextrans~~ is an albumin, a KLH or a dextran.

Claim 16. (Previously Presented) The pharmaceutical agent according to claim 9, additionally comprising at least one non-specific immune adjuvant.

Claim 17. (Cancelled)

Claim 18. (Withdrawn) A neutralizing antibody produced by immunization using the immunogenic construct according to claim 1.

Claim 19. (Cancelled)

Claim 20. (Cancelled)

Claim 21. (Withdrawn) A method for inducing an antibody response in a mammal, comprising the step of contacting the immunogenic construct according to claim 1 with an organism.

Claim 22. (Withdrawn) The method according to claim 21, wherein said contacting is effected on at least one route being selected from an oral, anal, rectal, vaginal, intravenous, intradermal, subcutaneous and intramuscular route.

Claim 23. (Cancelled)

Claim 24. (Cancelled)

Claim 25. (Withdrawn) A method for at least one of diagnosis, prophylaxis, therapy and follow-up of a viral disease comprising the step of administering the immunogenic construct according to claim 1, or a corresponding neutralizing antibody to an organism.

Claim 26. (Cancelled)

Claim 27. (Cancelled)

Claim 28. (Cancelled)

Claim 29. (Withdrawn) A method for the production of an antibody against a retroviral disease, comprising the steps of contacting an organism is contacted with the immunogenic construct according to claim 1, thereby inducing an immune response via formation of antibodies, and obtaining subsequently the antibody from the organism.

Claim 30. (Withdrawn) A method for the passive immunization of an organism, comprising the steps of contacting an organism with the antibody obtained according to the method of claim 29.

Claim 31. (Withdrawn) An immunoassay for the detection of at least one of a HIV-1, HIV-2, FeLV, BIV, CEAV, EIAV1, FIV, OMVV, SIVmac, SIVcpz, VILV, RSV, ALV, JSRV, SRV, GALV, MuLV, BLV, HTLV-1, HTLV-2, KoRV, SARS virus, SMRV, Marburg virus, Ebola, influenza virus, measles virus, mumps virus, Visna virus, PERV and HPV-1 antibody in a biological sample, comprising

a) coating a solid phase with the immunogenic construct according to claim 1,

b) incubating the solid phase with the biological sample,

c) incubating the solid phase with an anti-human antibody capable of detecting the classes IgA, IgM, IgG, which antibody is labelled with a detectable label, and

d) detecting the label in order to determine the presence of the binding antibody against the above-mentioned viruses in the sample.

Claim 32. (Withdrawn) An immunoassay for the detection of a viral antigen in a biological sample, comprising

a) coating a solid phase with the neutralizing antibody produced by immunization with the construct of claim 1,

b) incubating the solid phase with the biological sample,

c) incubating the solid phase with a second antibody against the viral antigens to be found, said antibody being different from the first one and obtained from an animal or human following immunization with the immunogenic construct according to claim 1, and

d) detecting the coupled second antibody so as to determine the amount of bound antigen.

Claim 33. (Cancelled)

Claim 34. (Cancelled)

Claim 35. (Cancelled)

Claim 36. (Cancelled)

Claim 37. (Previously Presented) The immunogenic construct according to claim 8, wherein the amino acid sequences or the DNA encoding same are entrapped in or anchored on a liposomal membrane.

Claim 38. (Currently Amended) The pharmaceutical agent according to claim 9 additionally comprising a pharmaceutically tolerable adjuvant ~~adjuvants~~.

Claim 39. (Cancelled)

Claim 40. (Currently Amended) The pharmaceutical agent according to claim 13, wherein the carrier system ~~is constituted of~~ comprises one or more protein fragments linked via a peptide bond to the outer N- or C-terminal end of said amino acid sequence.

Claim 41. (Currently Amended) The pharmaceutical agent according to claim 13, wherein the

carrier system is ~~selected from the group comprising albumins, KLH and dextrans~~ an albumin, a KLH or a dextran.

Claim 42. (Withdrawn) The method according to claim 25, wherein the viral disease is a retroviral disease.

Claim 43. (New) The immunogenic construct according to claim 1, wherein

(i) the first region of the amino acid sequence comprises amino acids 650 to 683 of the HIV-1 reference genome or a fragment or a subunit thereof which is functionally analogous; and

(ii) the second region of the amino acid sequence comprises amino acids 519 to 564 of the HIV-1 reference genome or a fragment or a subunit thereof which is functionally analogous.

Claim 44. (New) The immunogenic construct according to claim 43, wherein

(i) said amino acid sequences of the first region comprises the C-terminal amino acid sequences set forth in SEQ ID NOs: 97 to 99 or SEQ ID NOs: 13 to 23 or the DNA encoding same, wherein the amino acid sequence is

(a) SQNQQEKNEQELLELDKWAGLWSWFSITNWLWY (SEQ ID NO 97);

(b) SQNQQEKNEQELLELDKWASLWNWFNITNWLWY (SEQ ID NO 98);

(c) SQTQQEKNEQELLELDKWASLWNWFDITNWLWY (SEQ ID NO 99);

(d) NEQDLLALDKWASLWNWFDITNWLWYIK (SEQ ID NO 13);

(e) NEQDLLALDKWANLWNWFDISNWLWYIK (SEQ ID NO 14);

(f) NEQDLLALDKWANLWNWFDITNWLWYIR (SEQ ID NO 15);

(g) NEQELLELDKWASLWNWFDITNWLWYIK (SEQ ID NO 16);

(h) NEKDLLALDSWQNLWNWFDITNWLWYIK (SEQ ID NO 17);

(i) NEQELLELDKWASLWNWFSITQWLWYIK (SEQ ID NO 18);

(j) NEQELLALDKWASLWNWFDISNWLWYIK (SEQ ID NO 19);

(k) NEQDLLALDKWDNLWSWFSITNWLWYIK (SEQ ID NO 20);

(l) NEQDLLALDKWASLWNWFDITKWLWYIK (SEQ ID NO 21);

(m) NEQDLLALDKWASLWNWFSITNWLWYIK (SEQ ID NO 22); or

(n) NEKKLLELDEWASLWNWLDITKWLWYIK (SEQ ID NO 23).

Claim 45. (New) The immunogenic construct according to claim 43, wherein

(ii) said amino acid sequences of the second region comprises the N-terminal amino acid

sequences set forth in SEQ ID NOs: 94 to 96 and SEQ ID NOs: 7 to 12 or the DNA encoding same, wherein the amino acid sequence is

(1) FLGFLGAAGSTMGARSMTLTVQARQLLSGIVQQQNNLLRAIEAQQ (SEQ ID NO 94);

(2) FLGAAGSTMGAASMTLTVQARQLLSGIVQQQNNLLRAIEAQQHLL (SEQ ID NO 95);

(3) FLGAAGSTMGAASVTLTVQARLLLSGIVQQQNNLLRAIEAQQHML (SEQ ID NO 96);

(4) FLGFLGAAGSTMGAASITLTVQARQLLS (SEQ ID NO 7);

(5) FLGFLGAAGSTMGAASMTLTVQARQLLS (SEQ ID NO 8);

(6) FLGFLGAAGSTMGAASLTLTVQARQLLS (SEQ ID NO 9);

(7) LLGFLGAAGSTMGAASITLTVQARQLLS (SEQ ID NO 10);

(8) FLGFLGAAGSTMGAASITLTVQVRQLLS (SEQ ID NO 11); or

(9) FLGVLSAAGSTMGAAATALTVQTHTLMK (SEQ ID NO 12).

Claim 46. (New) The immunogenic construct according to claim 1, which comprises the polypeptide sequence LITQARQLLSDIVQQQRIVTEDLQALEKSVSNLEESLTSLSEVVLQNRRGLDLLFLKKEGL CVALKEECCFYVDHSGAIRDSMSKLRERLERRRREELDKWASLWNWFN (SEQ ID NO: 82).

Claim 47. (New) The immunogenic construct according to claim 1, which comprises the polypeptide sequence LITGASVTLTVQARQLLSDIVQQQRIVTEDLQALEKSVSNLEESLTSLSEVVLQNRRGLDL LFLKKEGLCVALKEECCFYVDHSGAIRDSMSKLRERLERRRREELDKWASLWNWFNITN WLWY (SEQ ID NO: 83).